

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002894**Date Inspected:** 11-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Skin plates**Summary of Items Observed:**

The name of ABF Certified Welding Inspector (CWI) are Mr. Wang Cheng Jun, Mr. Wei Jian Bo, Miss. Xie Yan and Mr. Yang Yi Heng.

Magnetic particle testing (MT) on splice welds (Tower Bay #2): Caltrans QAI performed QA MT testing on splice weld of skin plate. The test splice weld numbered # ESD1-SA80A/E-42A and ESD1-SA180A/E-45A. The grease, rust, scale and other moisture have been removed by ZPMC workers on both side 200mm of test weld areas prior MT testing. The power source of MT testing is used electromagnetic yoke with Alternating Current (AC) made by Magnaflux. The detection media is used dry red ferromagnetic particles. The QA MT testing of weld areas appeared to be in compliance with the requirements of AWS D1.5 (2002) and Caltrans contract documents.

Fit-up and Shield Metal Arc Welding (SMAW) tack welding on splice weld of skin plate (Tower Bay#2): Caltrans QAI observed ZPMC welders in process of fit up on longitudinal stiffener plate numbered SA294 to P1405 to P1294 with 45mm and 65mm wall thickness, all of skin plates have been connected and secured with the clamps after fit up process was completed and inspected by ZPMC QC inspector and ABF CWI inspector. Numerous 150mm length SMAW tack welds are evenly spaced around the skin plates bevel by approved welder. The parameters used for the SMAW tacks welding of the skins were conducted in accordance with Caltrans approved WPS. Based on Caltrans QAI observations, no discrepancies were noted.

Submerged Arc Welding (SAW) process on longitudinal stiffener plate and skin plate (Tower Bay#1 and Bay#2): Caltrans QAI observed ZPMC welding operators performed semi-automatic SAW on the splice weld of ASTM 709 345 longitudinal stiffener plate numbered P406A to P406B with 60mm wall thickness, weld # SSD1-SA173G/E-42A (Bay#1), longitudinal stiffener plate numbered P223A to P708 with 60mm to 70mm wall thickness, weld # ESD1-SA216F/K-16A (Bay#2), longitudinal stiffener plate numbered P327A to P39 with 60mm to 70mm wall thickness, weld # ESD1-SA207-21A (Bay#2), skin plate P263 to P759 to P316 to P216 with 65mm

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wall thickness, weld# SSD1-SA17G/G-1, SSD1-SA17F/G-5A, SSD1-SA17G/G-56, SSD1-SA17G/G-58A (Bay#1), skin plate P968 to SA40 to P320 to P319 with 45mm to 65mm wall thickness weld# SSD1-SA40B/E-2, SSD1-SA40B/E-3B, SSD1-SA40B/E-4B, SSD1-SA40C/E-31, SSD1-SA40C/E-34B(Bay#1). The weld designed is a double -V-groove with welding conducted in the in flat position (1G) with proper 4.8mm diameter wire feed electrode JW3 and flux/J1-B, made by China Company and completed with approximate five pass. The parameters used for SAW welding of splice weld was conducted in accordance with Caltrans approved WPS-B-T-2221-B-U3. The semi-automatic SAW was monitored and recorded by ZPMC QC and ABF Certified Welding Inspector (CWI). Based on Caltrans QAI observations, no discrepancies were noted.

### Summary of Conversations:

As Note within the report above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Wahbeh Mazen (818)292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Pau, Wai	Quality Assurance Inspector
<b>Reviewed By:</b>	Cochran, Jim	QA Reviewer

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